

(No Model.)

B. H. OTIS.
GATE.

No. 419,546.

Patented Jan. 14, 1890.

Fig. 2.

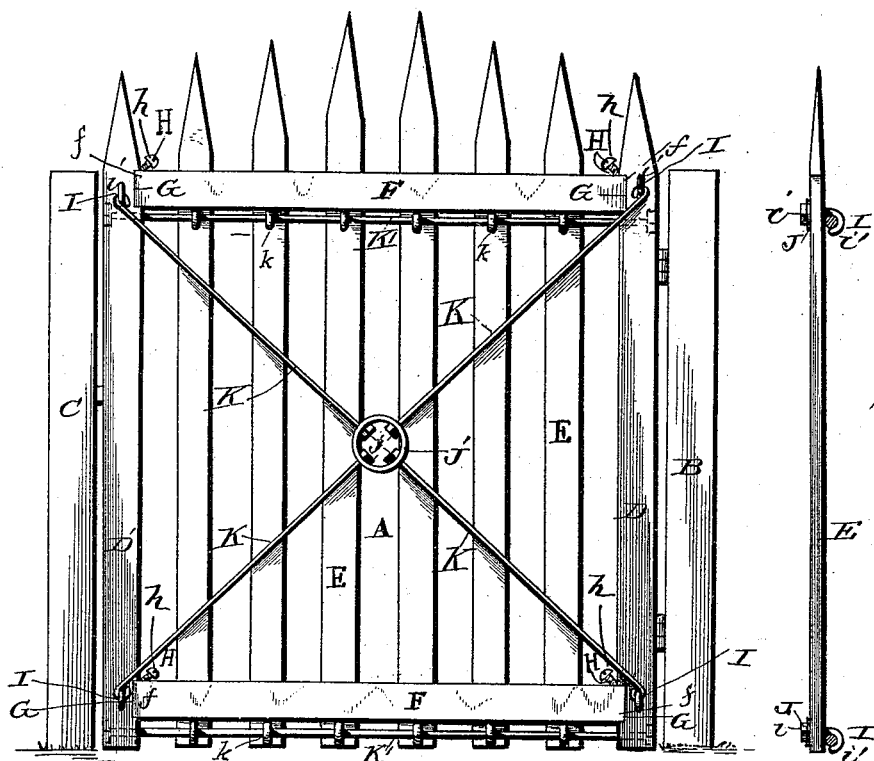


Fig. 2.

WITNESSES:

F. L. Ourquid
C. F. Chisholm

INVENTOR:

Benjamin H. Otis
By Louis Duggan
Attorneys

UNITED STATES PATENT OFFICE.

BENJAMIN H. OTIS, OF JOPLIN, MISSOURI, ASSIGNOR OF ONE-HALF TO
NORA M. CASE, OF SAME PLACE.

GATE.

SPECIFICATION forming part of Letters Patent No. 419,546, dated January 14, 1890.

Application filed August 6, 1889. Serial No. 319,902. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN H. OTIS, a citizen of the United States, and a resident of Joplin, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Gates; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

The invention relates to improvements in the construction of the frames of gates, doors, windows, screen-blinds, &c; and it consists in the construction and novel arrangement of
15 parts hereinafter described, illustrated in the accompanying drawings, and pointed out in the claim.

In the accompanying drawings, forming a part of this specification, in which like letters
20 of reference indicate corresponding parts, Figure 1 represents a side view of a fence-gate embodying the invention, and Fig. 2 represents a vertical section through the said gate on the line *xx* of Fig. 1.

25 Referring to the drawings by letter, A designates a gate, the construction of which illustrates the invention.

B designates the hinge-post of said gate, and C the latch-post thereof. The said posts
30 and the hinges and latch form no part of the present invention, and therefore a detailed description thereof is not necessary.

The gate A is composed of the vertical end bars D D', the former of which adjoins the
35 hinge-post B, while the latter adjoins the latch-post, and any desired number of intermediate vertical bars E.

F F are the horizontal panel-rails which extend between the end bars D and D'. The
40 end bars D D' are preferably provided with transverse recesses G to receive and fit upon the ends *f* of the panel-rails F.

To put together the frame of the gate or door, the end bars D D' are put at proper distances apart and the intermediate bars E
45 spaced at proper distances between the said end bars. Heavy wire or iron bars K K', secured to the vertical end bars D D' near the top and bottom thereof, are passed through
50 metal rings or eyes *k k*, attached to the bars E, whereby the bars E are securely held in

place. The ends *f* of the panel-rails are then inserted in the corresponding recesses G, and a screw H is driven from above into each joint formed by an end *f* and the corresponding recess G at such an inclination or angle
55 that it will engage or pass through a part of said end *f* and into the adjoining bar, binding both together. When the gate or door frame has been thus put together and the parts
60 thereof loosely united by the screws H, the hooked screws I are passed transversely through the bars D D' near the top and bottom of each of said bars and engaged by the
65 nuts *i* on the reverse side of the gate, their hooked front ends *i'* being on the side of the gate opposite the nuts.

Washers J are placed on the hooked screws I, between the bars D D' and the nuts *i*, to
70 provide a firmer bearing for the nuts and prevent the latter from penetrating the wood. The said washers are of metal and are preferably rectangular.

K K are metal rods or heavy and thick wires that are passed diagonally to the gate
75 through the hooks or loops *i'* of the hooked screws I, and extend toward the center of the gate, passing through openings in a metallic ring J', that lies over said center. The ends
80 of said rods within the ring are threaded and engaged by nuts *j*, by means of which the rods can be tightened toward the center of the gate. These rods are bound in place upon
85 the bars D D' by turning up the nuts *i* till the hooks or loops *i'* of the screws I press the said rods tightly against the gate-frame, so that the nuts *j* will not pull them out of the hooks, but will bind the bars and rails of the gate firmly together. Should the said bars
90 and rails become loose from wear or strain, they can at any time be tightened upon each other by the rods K, the hook-screws I, the ring J, and nuts *j*.

The screws H have preferably nicked or notched heads *h*, so that they can be easily
95 inserted and removed by a suitable instrument, and they bind the ends *f* of the panel-rails closely in the recesses G of the bars D, D', and E.

The gate as described is of simple and
100 strong construction, can be quickly and easily put up and taken down, and the plane-

rails are not weakened or rendered liable to rot by holes or recesses at any point of their lengths.

It is evident that the invention is as applicable to doors, screen-blinds, or other rectangular structures as it is to gates.

Having described my invention, I claim—

The combination, with the gate-frame composed of the vertical end bars D D', intermediate bars E, provided with rings or eyes *k*, the bars K' K', passing through said eyes and secured to the end rails near the top and bottom thereof, and the panel-rails F, with their ends fitted in recesses G in the end bars, of

the screws H, binding the ends of the panel-rails in place, metal rods K, the hooked screws I, engaging the hooked outer ends of the rods K, the central perforated ring J, and the nuts *j*, engaging the threaded ends of the rods K on the inner side of the ring J, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

BENJAMIN H. OTIS.

Witnesses:

C. H. MONTGOMERY,

W. T. FRAZELL.